GEOGRAPHICAL TYPOLOGY OF VITICULTURE IN SOUTH-EASTERN EUROPE

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It is first of all industry where economic co-operation has proved to be fructuous also in the countries of South-Eastern Europe. However, we believe that the intensification of economic integration will make its effect felt in agriculture, too.

A viticultural co-operation in South-Eastern Europe /e. g. co-ordination of specialization in grape varieties, co-ordination of ripening times of grapes and use of machines/ would require the knowledge of the state of vineyards as well as the delimitation and characterization of the regional types of viticulture.

Keeping this requirement in view, we made an attempt at the regional typology of viticulture in South-Eastern Europe.

This time, I wish only to present the method of our investigation.

The regional types of viticulture were approached from two sides:

I. First, the territorial distribution of factors was examined which, in our opinion, could contribute to the delimitation of contiguous viticultural areas /belts/.

1/ On the basis of the surface features of habitats, we were able to differentiate the viticultural areas of plains, hills and mountains. To delimitation we use the slope categories found in the Hungarian literature. Accordingly, we distinguished the so-called pediments /slope of 0 to 10 percent/, mountain medium /slope of 10 to 20 percent/ and mountain height /slope above 20 percent/.

Seventy to eighty percent of the Great Plain vineyards occupy areas sloping under 10 percent, 70 percent of the hilly vineyards are situated on slopes of 0 to 20 percent, while the three types of slopes of the mountainous vineyards are distributed in 10, 70 and 20 percents /pediment, mountain medium and mountain height/.

2/ Of the climatic elements, the mean annual temperature, the territorial distribution of rainfall and sunshine, as well as the meso- and micro-climatic characteristics of the vineyards were examined.

3/ The soil conditions of the vineyards and their effects on viticulture.

4/ On the basis of the size and percentual change of vineyards, we investigated the size of the viticultural belts of South-Eastern Europe, and the trend of their spatial changes as well.

5/ The level of regional specialization was determined by the share of vineyards in the total agricultural area.

6/ Distribution of vineyards according to farm and ownership.

7/ Regional concentration of the vine-stock.

8/ Regional characteristics of specialization in variety.

9/ The regional differences in the productive capacity of vine-stock were determined by an indirect method:

a/ We calculated the absolute increase of the vineyards by administrative units as compared to the averages of 1950 to 1955. Hereupon, we obtained the ratio of the 0- to 15-year-old vine-stocks for each vineyard. Since the superannuated vine-stocks have been partly replaced by new plantations, we supposed that the total vineyard, either unchanged or scarcely increased, may cover a considerable improvement, occasionally.

b/ Starting from this supposition, we compared the regional tendencies and percentual change of the average yields with the trend of vineyard;

c/ Finally, the administrative unit areas of 1965 to 1968 were compared with the total area before World War II, obtaining, thus, the ratio of the more than 25- to 35-year-old vine-stock.

On this basis we could distinguish:

<u>viticultural regions with excellent productive capacity</u> where the 0- to 15-year-old vine-stock makes up more than 35 percent, and average yields exceed 50 q/ha;

viticultural regions with fair productive capacity where the 0- to 15-year-old vine-stock represents 10 to 20 percent, and average yields range from 30 to 40 q/ha;

viticultural regions with poor productive capacity where the 0- to 15-year-old vine-stock represents less than 5 percent and average yields do not attain 30 q/ha;

and finally,

ruining vineyards in which the young vine-stock do not make up but a negligible proportion, which were not reconstructed, and the average yields of which decreased by more than 25 percent during the last ten years.

10/ Annual quantity and percentual change of the grape yields.

11/ Level of viticulture; average quantity and percentual distribution of grape yields.

The above-mentioned factors were synthetized by a cartographic method, and the geographical types of viticulture were formed on the basis of the territorial coincidence of these factors.

II. We applied land use maps to our agro-geographical investigation of viticultural belts. The informations obtained by land use survey proved to be instrumental in the delimitation and characterization of viticultural microregions as they explored those correlations which are not found in the statistics /e. g. spatial differentiation of viticulture etc./.

Obviously, our land use survey does not comprise all the viticultural belts of South-Eastern Europe; this task will fall to the future.

On the basis of the land use maps, we surveyed the trend and measure of the spatial changes of viticulture. For this purpose, we used the maps of 1770, 1880 and 1950 and those prepared between 1965 and 1970. E. g. the series of maps of the Danube-Tisza Interfluve represents the deconcentration of the vineyards between 1880 and 1950, being one of the motive forces that brought about scattered settlements. However, the vineyards of Tokaj are characterized by the "sliding down" of the vine-stock /to the pediment/ referring to efficient production /higher yields, mechanizable cultivation etc./.

On the other hand, the land use maps of 1965 and 1970 aimed at the true representation of the spatial differentiation in productive capacity.

Consequently, we kept the following factors in view during our survey:

- Age and productive capacity of the vine-stock;
young, non producing /0 to 5 years old/,
young, producing /5 to 25 years old/,
superannuated, producing, reconstructed /more than 30 years old/,
superannuated, producing, stock-deficient /in 15 to 25 percent/,
superannuated, producing, ruining /stock deficiency exceedes 30 percent/,
ruined.

- Way of cultivation;
stakeless, staking, wired propping.

- Intercultural fruit-trees;
absent, young, reconstructed, deficient.

By the combination of these factors, we formed the regional types of viticulture. For example:

young, non producing vine-stock traditionally cultivated; young, non producing vine-stock with wired propping etc.

The land use maps were made by field studies on the one hand, and by aerial photo interpretation, on the other. In general, our survey was summed up on maps of 1:25 000 scale, while the survey itself was represented on basic maps of 1:10 000 scale. In the regional typology of the vine-stocks the aerial photos on the scale 1:5000 to 1:1000 proved to be the most instrumental.

By the help of the two methods we could differentiate:

"A" Agricultural area of viticultural character, or viticultural belt.

"B" Agricultural area with viticultural region.

"C" Agricultural area with viticultural micro-region.

"D" Agricultural area without viticulture.